

BECK'S No-Till vs. Conventional-Till Long Range Soybean Study – 2005 (Soybeans after Corn)

Location: E9 – E10 plots
Planted: April 18, 2005
Harvested: October 3, 2005
Rows: Six 15" rows
Soil Type: Crosby

Seeding Rate: 156,000 seeds/A.
Previous Crop: Corn
Tillage: No-Till - None
 Conv. - Moldboard Plow / S-tine
Herbicide: 26 oz. Roundup Original Max

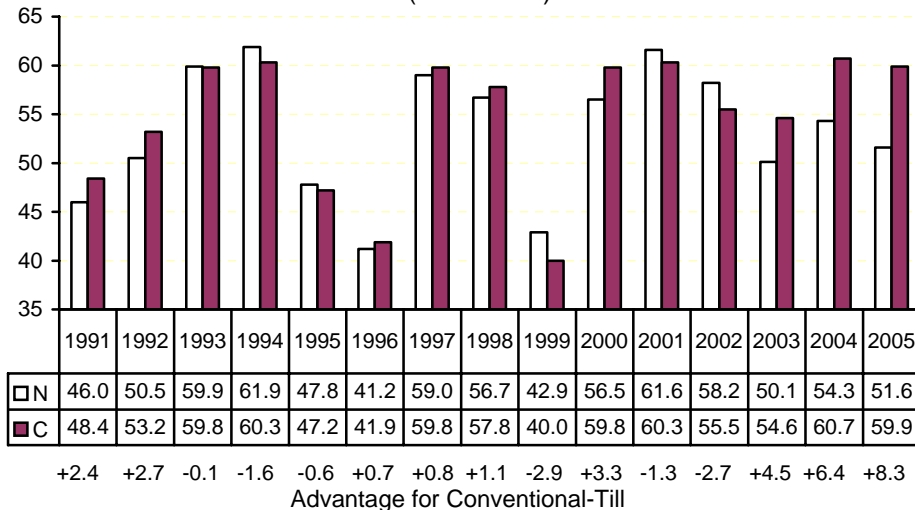
RAINFALL	
April	3.4 in.
May	3.2 in.
June	4.0 in.
July	6.8 in.
August	<u>3.3 in.</u>
Total	20.7 in.

Purpose: From 1991-1999, we studied how four different soybean varieties responded in emergence, plant height, podding height, disease resistance, standability, and yield using no-till and conventional-till practices. Since 2000, we expanded the study to include twice as many varieties, and we used a 15" row drill instead of the 7 1/2" row drill.

Yield Rank	Brand-Variety	Plant Height (IN.)	Pod Height (IN.)	Standability 1 = Erect 5 = Flat	Bushels* Per Acre	Advantage for Conv.-Till (per Variety)
NO-TILL STUDY						
1	BECK 354NRR	42	4.0	1.6	56.0	
2	BECK 297NRR	38	3.0	1.7	54.9	
3	BECK 405NRR	38	4.0	1.8	53.9	
4	BECK 295NRR	36	3.0	1.7	52.3	
5	BECK 367NRR	40	4.0	1.8	51.6	
6	BECK 333RR	40	4.0	1.8	48.8	
7	BECK 349NRR	38	3.0	1.7	48.5	
8	BECK 323RR	<u>38</u>	<u>3.0</u>	<u>1.6</u>	<u>46.8</u>	
	AVERAGE	39	3.5	1.7	51.6	
CONVENTIONAL STUDY						
1	BECK 367NRR	38	4.0	1.7	64.8	+13.2
2	BECK 354NRR	42	4.0	1.7	64.6	+8.6
3	BECK 405NRR	38	3.0	1.6	64.4	+10.5
4	BECK 323RR	38	2.0	1.7	59.3	+12.5
5	BECK 349NRR	36	3.0	1.6	58.5	+10.0
6	BECK 297NRR	38	3.0	1.7	58.5	+3.6
7	BECK 333RR	38	3.0	1.8	55.4	+6.6
8	BECK 295NRR	<u>36</u>	<u>3.0</u>	<u>1.7</u>	<u>53.5</u>	<u>+1.2</u>
	AVERAGE	38	3.1	1.7	59.9	+8.3

*Bushels per acre corrected to 13% moisture.

No-Till vs Conventional-Till Soybean Study
Fifteen Year Comparison
(1991-2005)



Summary: After fifteen years of testing no-till vs. conventional practices in this same location, the overall average shows a 1.4 Bu./A. difference between the two practices with conventional-till winning nine out of fifteen years.

Conv.-Till = 54.6 Bu./A.
No-Till = 53.2 Bu./A.

Over the years, we have observed a greater concentration of earthworms in the no-till areas, as well as improved water percolation into the soil after a heavy rain.

The last two year's results have shown the largest advantage for conventional-till (6.4 Bu./A. and 8.3 Bu./A.). In this year's test, every variety performed better in conventional till.

BECK'S No-Till vs. Conventional-Till Long Range Soybean Study – 2005 (Continuous Soybeans)

Location: E12 – E13 plots	Seeding Rate: 156,000 seeds/A.
Planted: April 18, 2005	Previous Crop: Soybeans
Harvested: October 3, 2005	Tillage: No-Till - None
Rows: Six 15" rows	Conv. - Moldboard Plow / S-tine
Soil Type: Crosby	Herbicide: 26 oz. Roundup Original Max

RAINFALL	
April	3.4 in.
May	3.2 in.
June	4.0 in.
July	6.8 in.
August	<u>3.3 in.</u>
Total	20.7 in.

Purpose: After thirteen years of comparing no-till with conventional-till soybeans following corn, we converted this portion of our long range testing area to continuous soybeans to evaluate varietal and tillage interaction in a continuous soybean environment.

Yield Rank	Brand-Variety	Plant Height (IN.)	Pod Height (IN.)	Standability 1 = Erect 5 = Flat	Bushels* Per Acre	Advantage for Conv.-Till (per Variety)
NO-TILL STUDY						
1	BECK 405NRR	36	3.0	1.5	64.7	
2	BECK 354NRR	42	4.0	1.5	59.6	
3	BECK 367NRR	40	4.0	1.5	58.6	
4	BECK 349NRR	38	2.0	1.4	55.1	
5	BECK 297NRR	34	3.0	1.6	55.1	
6	BECK 333RR	36	3.0	1.5	51.6	
7	BECK 323RR	38	3.0	1.6	49.2	
8	BECK 295NRR	<u>38</u>	<u>3.0</u>	<u>1.5</u>	<u>47.7</u>	
	AVERAGE	38	3.1	1.5	55.2	
CONVENTIONAL STUDY						
1	BECK 297NRR	42	4.0	1.6	62.4	+7.3
2	BECK 405NRR	36	3.0	1.5	60.0	-4.7
3	BECK 354NRR	40	4.0	1.5	59.0	-0.6
4	BECK 367NRR	40	4.0	1.5	58.6	0.0
5	BECK 323RR	40	4.0	1.6	55.1	+5.9
6	BECK 349NRR	38	3.0	1.5	52.8	-2.3
7	BECK 295NRR	38	3.0	1.7	50.5	+2.8
8	BECK 333RR	<u>40</u>	<u>3.0</u>	<u>1.6</u>	<u>48.0</u>	<u>-3.6</u>
	AVERAGE	39	3.5	1.6	55.8	+0.6

*Bushels per acre corrected to 13% moisture.

Summary: This is the second year of continuous soybeans and our results are varied. No clear pattern emerges as nearly half the varieties performed better in conventional-till and there was only 0.6 bushels per acre difference between the two tillage practices.

The Natural Resource Conservation Service and Soil and Water Conservation District assessed the following: earthworm burrows, water infiltration rate and soil respiration after fourteen years of testing both zone-till and conventional-till practices in this same field. The results are graphed below.

